

Benthic TMDL Development for the Difficult Run Watershed

TAC Meeting #4

February 25, 2008



TMDL Sediment Allocation

Wasteload Allocation:

- **Point Sources:**

- 1 VPDES Permitted facility - Madeira School (VA0024121)
- Includes permitted load plus an expansion for future growth factor of 5 (which was applied to the total point source load)

- **MS4 Areas:**

- Five MS4 permit holders
- Includes land-based load and instream bank erosion load associated to developed land (68% of the watershed)

- **Permitted Construction**

- Total area of 340 acres
- Includes land-based loads that are reduced by 60% due to ongoing BMPs

Load Allocation:

- Includes land-based load (Forest and agriculture lands) and instream bank erosion load (32% of the watershed)

Difficult Run Sediment TMDL

TMDL (tons/year)	Wasteload Allocation (Point Source + MS4s+Construction)	Load Allocation	Margin of Safety (10%)
5,239.9	2,722.2	2,042.3	529.4

Summary of Existing and Allocated Sediment Loads for the Difficult Run Watershed

Source	Land Use Type	Existing Load (tons/year)	Allocated Load (tons/year)	% Reduction
Nonpoint Source	Deciduous Forest	31.1	31.1	0
	Evergreen Forest	3.3	3.3	0
	Mixed Forest	0.0	0.0	0
	Pasture/Hay	409.4	313.8	23
	Cultivated Crop	587.2	450.2	23
	Developed, Low intensity	0.0	0.0	23
	Developed, Med Intensity	0.0	0.0	23
	Developed, High Intensity	0.0	0.0	23
	Developed, Open Space	0.0	0.0	23
	Instream Erosion	1,622.5	1,243.9	23
MS4	Non-point Source	0.0	0.0	0
	Instream Erosion	3,447.9	2,643.3	23
Construction Permits	Barren Land	85.3	65.4	23
Permitted Facilities	Individual VPDES Permit*	2.7	13.5	0
Total		6,189.4	4764.5	23

* An expansion for future growth factor of 5 was applied to the total WLA for the individual VPDES permit

Difficult Run Sediment TMDL:

Unit Area Load Estimates for Developed Land Use

Sediment loading from developed land uses are based on literature values found in the *Fundamentals of Urban Runoff Management* (Shaver et al., 2007)

TMDL (tons/year)	Wasteload Allocation (Point Source + MS4s+Construction)	Load Allocation	Margin of Safety (10%)
6,080.2	3,666.6	1,805.6	608.0

Summary of Existing and Allocated Sediment Loads for the Difficult Run Watershed (including urban sediment loading)

	Land Use Type	Existing Load (tons/year)	Allocated Load (tons/year)	Percent Reduction
Nonpoint Source	Deciduous Forest	31.1	31.1	0
	Evergreen Forest	3.3	3.3	0
	Mixed Forest	0.0	0.0	0
	Pasture/Hay	409.4	276.8	32
	Cultivated Crop	587.2	397.1	32
	Instream Erosion	1,622.5	1,097.2	32
MS4	Non-point Source**	1,868.7	1,263.8	32
	Instream Erosion	3,447.9	2,331.6	32
Construction Permits	Barren Land	85.3	57.7	32
Permitted Facilities	Individual VPDES Permit	2.7	13.5	0
Total		8,058.1	5,472.2	32

* An expansion for future growth factor of 5 was applied to the total WLA for the individual VPDES permit

** Includes loads from developed land

Local TMDL Contacts



Katie Conaway
TMDL Coordinator

Virginia Department of Environmental Quality

Northern Virginia Regional Office

13901 Crown Court

Woodbridge, VA 22193

mkconaway@deq.virginia.gov

Phone: (703) 583-3804

Fax: (703) 583-3821

Reports/presentations available at:

www.deq.virginia.gov/tmdl/mtgppt.html

The Louis Berger Group, Inc.

Raed M. EL-Farhan

(202) 331-7775

relfarhan@louisberger.com

